

## UV Radiometer UVpad



**New:  
software control**

UVpad

The UVpad is the world's thinnest spectral measuring and autonomous UV radiometer. It combines scientific measurement technology with a compact and user-friendly instrument. With its innovative measuring principle, it doesn't use optical filters. UV light is spectrally detected and analyzed in the UVpad. Thus, measurements are traceable to national standards. Since it works without a filter, it is particularly suitable for the measurement and comparison of different lamps.

All measurement data are displayed on the device immediately; 50 measurements are stored in the UVpad and can be read via USB. The supplied PC software evaluates the irradiance intensity profiles measured separately for UVA, UVB, UVC, and VIS. Spectrum and measurement data can be exported and saved.

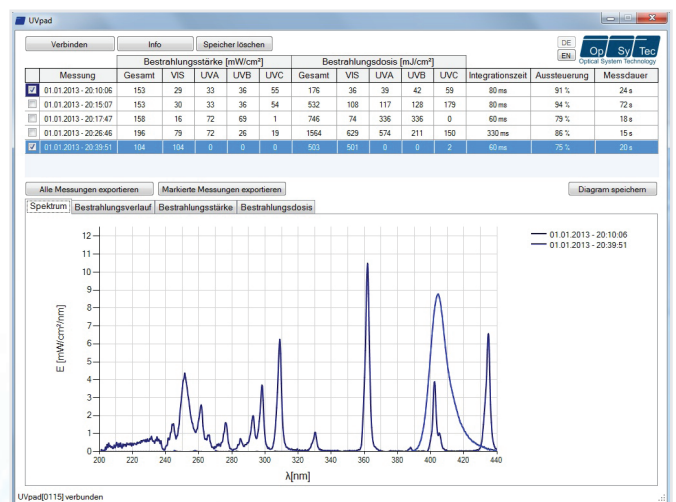
Optionally, UV systems can be optimized due to saved operating functions such as, for example, the absorption spectra of photo initiators. Thus, the operation costs can be reduced and the product quality can be ensured.

Applications:

- Control of UV curing belts
- Measurement of spotlight sources and UV-LEDs

## HIGHLIGHTS

- Spectral radiometric measurements without a PC
- 200 - 440 nm (total UV spectral range)
- 512 photo diodes
- Battery operated
- Height only 14,4 mm
- USB for data export
- Internal memory for 50 measurements



Software UVpad Viewer

## TECHNICAL DATA

<b>Spectral range</b>	200 - 440 nm $\pm$ 5 nm
<b>Spectral bandwidth</b>	2 nm
<b>Irradiance meas. range</b>	2 - 5000 mW/cm <sup>2</sup>
<b>Dose measurement range</b>	1 mJ/cm <sup>2</sup> - 600 J/cm <sup>2</sup>
<b>Resolution</b>	0,1 mW/cm <sup>2</sup> / 1 mWcm <sup>2</sup>
<b>Calibration</b>	traceable to PTB/NIST
<b>calibration uncertainty typ.</b>	5,0% - 9,5%
<b>Cosine correction</b>	yes
<b>Data storage rate</b>	100 Hz to 1 Hz, adjustable
<b>Measurement time</b>	5 s to 8 min depeding on data storage rate
<b>Sampling rate</b>	10 ms - 1000 ms
<b>Display</b>	graphical, 128 x 64 px
<b>Dimensions</b>	160 x 100 x 14,4 mm <sup>3</sup>
<b>Sensor position</b>	at the rear side
<b>Weight</b>	~ 375 g
<b>Operation temperature</b>	10 - 70 °C briefly for up to 60s at 120°C ambient temperature
<b>Batteries</b>	3 x CR2032
<b>Memory</b>	50 measurements
<b>Interface</b>	USB
<b>System requirements</b>	Windows 10

## DID YOU KNOW?

Broadband and spectral radiometers are used in the UV measurement technology to monitor lamp performance. However, broadband radiometers are only calibrated to one lamp type and differ in their sensitivity to each other. This makes comparisons between the measurements of different manufacturers and comparisons between systems with different lamps (e.g., Hg, Ga, Fe) or UV LEDs impossible. In contrast, by means of spectral radiometers, all UV lamps can be measured.

For example, as doped radiation sources age, the spectrum changes. UV systems and aging of the radiation sources can be conveniently monitored and documented with the UVpad.

In spectral radiometers, the actual measuring range depends on the spectrum and can be exceeded or reduced by it. We specify the measuring range for measurements of common medium pressure lamps.

For optimum measurement results, we offer the three versions of the UVpad - standard, high power or high sensitivity.

With a measurement range of up to 5000 mW/cm<sup>2</sup>, the standard UVpad is already ideal for belt systems with medium pressure lamps and for applications in the fields adhesive bonding and sealing. Even modern UV-LED lamps can normally be measured.

For UV-LED lamps with the highest power density, we recommend the high power option. Please note that the irradiation in UV-LEDs strongly decreases in curing systems to some extent with an increasing distance. We will happily advise you on the choice of the appropriate measurement range.

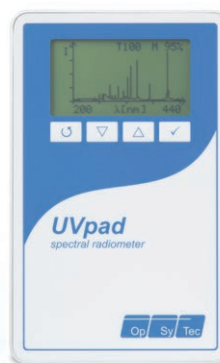
For fluorescent UV lamps, sun simulators or applications with a low irradiance, the UVpad with the option "high sensitivity" is well suited.

## HIGH-POWER OPTION

<b>Spectral bandwidth</b>	2 nm
<b>Irradiance meas. range</b>	25 - 35000 mW/cm <sup>2</sup> (opt.)
<b>Dose measurement range</b>	25 mJ/cm <sup>2</sup> - 4200 J/cm <sup>2</sup>
<b>Resolution</b>	1 mW/cm <sup>2</sup>

## HIGH-SENSITIVITY OPTION

<b>Spectral bandwidth</b>	4 nm
<b>Irradiance meas. range</b>	1 - 5000 W/m <sup>2</sup>
<b>Bestrahlungsdosis</b>	0,1 J/m <sup>2</sup> - 5000 J/m <sup>2</sup>
<b>Resolution</b>	1 W/m <sup>2</sup> = 0,1 mW/cm <sup>2</sup>



Front view



Rear view

## SOFTWARE

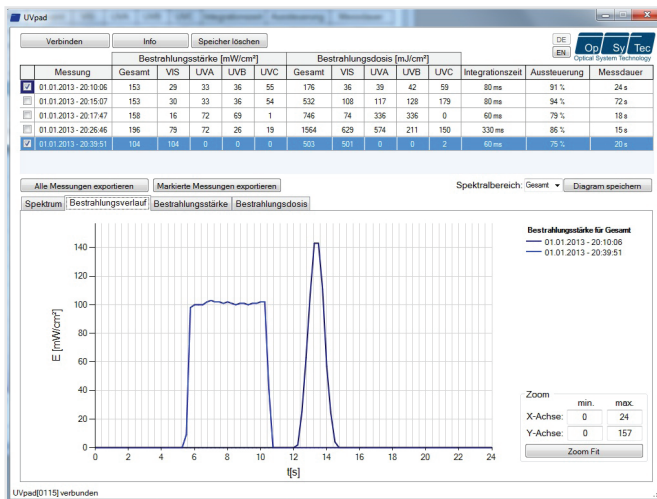
Connect the UVpad to the PC in order to indicate, evaluate and save the measurements. Due to the simple comparison of the measurement data, changes in the spectrum, irradiance or dose are possible at the touch of a button.

With each measurement, the measurement data and time are saved. Measurement parameters and system names can be preset on the PC and are directly available on the measuring device. Due to the addi-

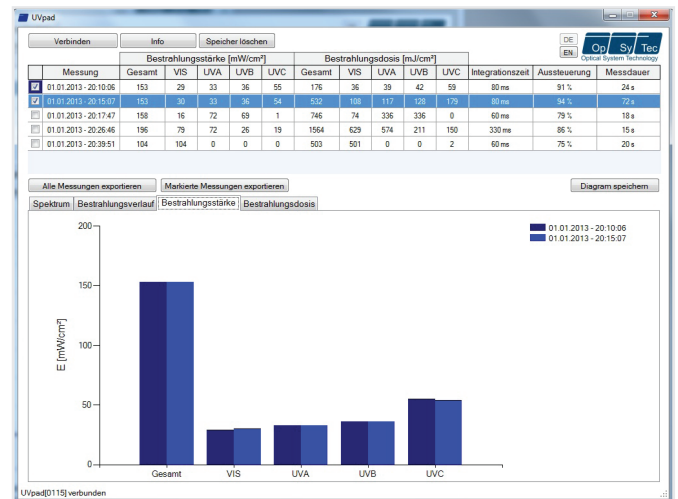
onal possibility to save the measurements directly with comments, you can always keep track of many measu-

	System name	Sensitivity	Integration time	Measurement mode	Measurement delay	Recording time	Gain
1	Lab.	automatically	20 ms	mW/cm <sup>2</sup>	0 s	120 s @ 4 Hz	low
2	LED LedCont.	automatically	250 ms	mW/cm <sup>2</sup>	0 s	48 s @ 10 Hz	high
3	365 nm LED	high	700 ms	mW/cm <sup>2</sup>	20 s	24 s @ 20 Hz	high
4	405 nm LED	fixed	10 ms	mW/cm <sup>2</sup>	10 s	10 s @ 50 Hz	low
5	UV system	fixed	100 ms	mW/cm <sup>2</sup>	10 s	5 s @ 100 Hz	high
6	HP120	fixed	30 ms	mW/cm <sup>2</sup>	0 s	8 min @ 1 Hz	high

Software: Parametrization on the PC



Software displays irradiance profiles



Software displays a comparison of different irradiance measurements

## FUNCTIONS

### Radiometric measurements:

- Spectra at peak irradiance
- Peak irradiance (UVA, UVB, UVC, VIS)
- Irradiance profile (UVA, UVB, UVC, VIS)
- Irradiance dose (UVA, UVB, UVC, VIS)

### Settings:

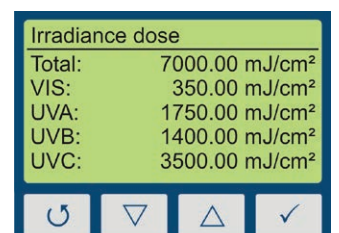
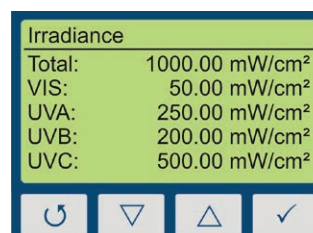
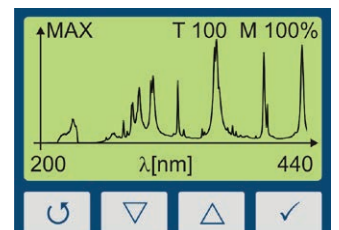
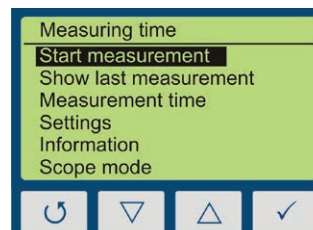
- Sensitivity & measurement mode
- measurement duration (~5 s to 8 min)
- measurement delay (for slow UV belt systems)

### Data export:

- 50 measurements with irradiance profile for UVA, UVB, UVC, VIS
- Measurement settings as date / time, duration, settings and saturation

## SCOPE OF DELIVERY

UVpad, PC-software, manufacturers certificate of calibration, USB cable and case



## PART NUMBERS

UVpad	670011
opt. meas. range 35 W/cm <sup>2</sup>	670011-P
opt. meas. range 0,5 W/cm <sup>2</sup>	670011-H
opt. action / actinic spectra	670011-S